

Small Business Computer Specifications—Addendum I

MANUFACTURER & MODEL	Basic Four Corporation Model 200	Basic Four Corporation Model 610	Cincinnati Milacron GEORGE (Series 40)	Cincinnati Milacron GEORGE B (Series 60)	Cincinnati Milacron GEORGE C (Series 70)
<b>DATA FORMATS</b>					
Word length, bits	8-bit byte	8-bit byte	16	16	16
Decimal digits per word	1 per byte	1 per byte	2	2	2
Bytes (characters) per word	1 per byte	1 per byte	2	2	2
Operand length, words	16, 32 bits	16, 32 bits	1/2 to 2, string	1/2 to 2, string	1/2 to 2, string
Instruction length, words	2 bytes	2 bytes	1/2 to 4	1/2 to 4	1/2 to 4
<b>CPU</b>					
Model	BFC 1340	BFC 1320	CIP/2200B	CIP/2200B	CIP/2200B
Add time, microseconds	7.4	7.4	10.3 (1 word)	10.3 (1 word)	10.3 (1 word)
No. of programmable registers	3	3	3	3	3
No. of I/O ports on basic system and maximum	—	11 (above req.)	7, 14	7, 14	7, 14
<b>INTERNAL STORAGE</b>					
Type	MOS	MOS	MOS	MOS	MOS
Capacity of basic system, bytes	32K	40K	32K	32K	32K
Maximum capacity, bytes	32K	96K	64K	64K	64K
Increment size, bytes	—	8K, 16K	16K	16K	16K
Cycle time, microseconds	0.6	0.6	1.1	1.1	1.1
Access time, microseconds	0.4	0.4	0.66	0.66	0.66
<b>MASS STORAGE CAPABILITIES*</b>					
Floppy disk drive	No	No	Std.; 2.52M bytes	Opt.; 1.26M bytes	Opt.; 1.26M bytes
Cartridge disk drive	Std.; 10M bytes	Std.; 35M bytes	No	Std.; 40M bytes	Std.; 40M bytes
Pack disk drive	No	No	No	No	No
Fixed-head disk/drum	No	No	No	No	No
<b>KEYBOARD INPUT*</b>					
Alphanumeric (typewriter) keyboard	Standard	Standard	Standard	Standard	Standard
10-key numeric keyboard	Standard	Standard	Optional	Optional	Optional
Full accounting keyboard	No	No	No	No	No
<b>INPUT/OUTPUT DEVICES*</b>					
Paper tape reader	No	Opt.; 300 cps	No	No	No
Paper tape punch	No	Opt.; 75 cps	No	No	No
Punched card reader	No	Opt.; 300-400 cpm	Optional; 600 cpm	Optional; 600 cpm	Optional; 600 cpm
Punched card punch	No	No	No	No	No
Punched card reader/punch	No	No	No	No	No
Serial printer	Std.; 120 cps	Std.; 165 cps	Std.; 60 cps	Opt.; 60 cps	Opt.; 60 cps
Line printer	No	Opt.; 150-600 lpm	Opt.; 60-600 lpm	Std.; 60-600 lpm	Std.; 60-600 lpm
Reel-to-reel tape drive	No	Opt.; 10 KBS	No	Opt.; 20 KPS	Opt.; 20 KPS
Cassette tape drive	—	No	No	No	No
Cartridge tape drive	Std.; 2.5M bytes	No	No	No	No
Magnetic ledger card device	No	No	No	No	No
CRT	Std.; 24 x 80 char.	Std.; 24 x 80, 16 x 32 char.	Std.; 960 char.	Std.; 960 char.	Std.; 960 char.
Opt.; 1920 char.			Opt.; 1920 char.	Opt.; 1920 char.	Opt.; 1920 char.
<b>COMMUNICATIONS CAPABILITIES*</b>					
Maximum no. of lines	No	8	4	9	9
Synchronous	No	Opt.; 2400 bps	Opt.; 9600 bps	Opt.; 9600 bps	Opt.; 9600 bps
Asynchronous	No	Std.; 9600 bps	Opt.; 9600 bps	Opt.; 9600 bps	Opt.; 9600 bps
Protocols supported	None	IBM 2780	IBM 2780	IBM 2780	IBM 2780
<b>SOFTWARE SUPPORT</b>					
COBOL	No	No	No	No	No
RPG	No	No	Yes	Yes	Yes
FORTRAN	No	No	No	No	No
BASIC	Yes	Yes	No	No	No
Assembler	No	No	Yes	Yes	Yes
Other programming languages	None	—	None	None	None
Multiprogramming	No	Yes; 8 partitions	Yes	Yes	Yes
Language implemented in firmware	No	No	Yes	Yes	Yes
Operating system implemented in firmware	Partially	Partially	Yes	Yes	Yes
General accounting packages	Standard	Yes	Yes	Yes	Yes
Industry application areas	General business	Medical, insurance, general business	Bus. acctg.	Bus. acctg.	Bus. acctg.
Data base management system	No	No	No	No	No
File access methods supported	Sequential, random	Sequential, random	Random, sequential, indexed sequential	Random, sequential, indexed sequential	Random sequential, indexed sequential
Software separately priced	No	Yes	Some	Some	Some
Technical help separately priced	No	Yes	Yes	Yes	Yes
<b>PRICING &amp; AVAILABILITY</b>					
Purchase price of basic system, \$	29,000	51,400	16,100	30,200	30,300
Monthly rental of basic system, \$	638	1,131	NA	NA	NA
Date of first US delivery	January 1978	1978	February 1977	1973	1973
Number installed in U.S. to date	4700 (all models)	4700 (all models)	590 (all models)	590 (all models)	590 (all models)
<b>COMMENTS</b>	Turnkey accounting system	Available as packaged systems only; system price also includes cartridge disk subsystem, serial or line printer, and CRT terminal. Disk storage to 105M bytes.	GEORGE includes CPU with 32K, 960-char. VDT, dual floppy disk drives, and 60-lpm printer; see report M11-131-101	GEORGE B includes CPU with 32K, 960-char. VDT, 5M-byte disk drive, and 60-lpm printer	GEORGE C includes CPU with 32K, 960-char. VDT, 5M-byte disk drive, and 60-lpm printer

\*\*"Std." means the device is included in the price of the "basic system" as listed here.

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MANUFACTURER & MODEL	Cincinnati Milacron GEORGE D (Series 80)	Cincinnati Milacron GEORGE E (Series 90)	Computer Automation SyFA	Hewlett-Packard Calculator Products Div. System 45	IBM 5110
<b>DATA FORMATS</b>					
Word length, bits	16	16	16	16	8-bit byte
Decimal digits per word	2	2	2	4	1 per byte
Bytes (characters) per word	2	2	2	2	1 per byte
Operand length, words	1/2 to 2, string	1/2 to 2, string	1 bit to 255 bytes	—	—
Instruction length, words	1/2 to 4	1/2 to 4	1, 2	1	2 bytes
<b>CPU</b>					
Model	CIP/4400	CIP/4400	CA LSI-2/60	98455	IBM 5110
Add time, microseconds	2.1 (1 word)	2.1 (1 word)	2.4 (1 word)	1.6	NA
No. of programmable registers	3	3	2	—	Software-assigned
No. of I/O ports on basic system and maximum	7, 14	7, 14	12, 36	4	2; variable
<b>INTERNAL STORAGE</b>					
Type	MOS	MOS	Core	MOS	MOS
Capacity of basic system, bytes	64K	64K	64K	13,498	16K
Maximum capacity, bytes	256K	256K	304K	62,650	64K
Increment size, bytes	32K	32K	32K	—	16K
Cycle time, microseconds	0.8	0.8	1.2	1	0.53 (2 bytes)
Access time, microseconds	0.6	0.6	0.5	—	0.33
<b>MASS STORAGE CAPABILITIES*</b>					
Floppy disk drive	Opt.; 1.26M bytes	Opt.; 1.26M bytes	No	Opt.; 470K bytes	Std.; 4.8M bytes
Cartridge disk drive	Std.; 40M bytes	Opt.; 20M bytes	Opt.; 40M bytes	No	No
Pack disk drive	No	Std.; 320M bytes	Opt.; 1760M bytes	Opt.; 32; 50M bytes	No
Fixed-head disk/drum	No	No	No	No	No
<b>KEYBOARD INPUT*</b>					
Alphanumeric (typewriter) keyboard	Standard	Standard	Optional	Standard	Standard
10-key numeric keyboard	Standard	Standard	Optional	Standard	Standard
Full accounting keyboard	No	No	No	No	No
<b>INPUT/OUTPUT DEVICES*</b>					
Paper tape reader	No	No	No	Opt.; 20 cps	No
Paper tape punch	No	No	No	Opt.; 75 cps	No
Punched card reader	Optional; 600 cpm	Optional; 600 cpm	No	Opt.; 300 cpm	No
Punched card punch	No	No	No	No	No
Punched card reader/punch	No	No	No	No	No
Serial printer	Opt.; 60 cps	Opt.; 60 cps	Opt.; 165 cps	Opt.; 30-100 cps	Opt.; 80, 120 cps
Line printer	Std.; 60-600 lpm	Std.; 60-600 lpm	Opt.; 300, 600 lpm	Opt.; 240-480 lpm	No
Reel-to-reel tape drive	Opt.;	Opt.;	Opt.; 800/1600 bpi	No	No
Cassette tape drive	No	No	No	No	No
Cartridge tape drive	No	No	No	Std.; 1.48KBS	Opt.; 2850 cps
Magnetic ledger card device	No	No	No	No	No
CRT	Std.; 960 char. Opt.; 1920 char.	Std.; 960 char. Opt.; 1920 char.	Optional; 24 x 80 char.	Std.; 1920 char.	Standard; 16 x 64 char.
<b>COMMUNICATIONS CAPABILITIES*</b>					
Maximum no. of lines	32	32	25	1	1
Synchronous	Opt.; 9600 bps	Opt.; 9600 bps	Opt.; 4800 bps	Opt.; to 9600 bps	Opt.; to 9600 bps
Asynchronous	Opt.; 9600 bps	Opt.; 9600 bps	Std.; to 2400 bps	Opt.; to 9600 bps	Opt.; to 300 bps
Protocols supported	IBM 2780	IBM 2780	IBM 2780/3780	None	IBM 2741, 3741
<b>SOFTWARE SUPPORT</b>					
COBOL	No	No	No	No	No
RPG	Yes	Yes	No	No	No
FORTRAN	No	No	Yes	No	No
BASIC	No	No	Yes	Yes	Yes
Assembler	Yes	Yes	No.	No	No
Other programming languages	Sys. Prog. Lang.	Sys. Prog. Lang.	SYBOL	None	APL
Multiprogramming	Yes	Yes	Yes; 43 partitions	No	No
Language implemented in firmware	Yes	Yes	No	Fully	Fully
Operating system implemented in firmware	Yes	Yes	No	Fully	Fully
General accounting packages	Yes	Yes	No	No	Yes
Industry application areas	Bus. acctg., wholesale dist.	Bus. acctg., wholesale dist.	Distributed processing	Bus. admin., mgt. sci., math./stat.	Financial analysis, statistics
Data base management system	No	No	No	No	No
File access methods supported	Random, sequential, indexed sequential	Random, sequential, indexed sequential	Random, sequential, indexed sequential	Direct	Sequential
Software separately priced	Some	Some	No	Yes	Some
Technical help separately priced	Yes	Yes	No	Yes	Yes
<b>PRICING &amp; AVAILABILITY</b>					
Purchase price of basic system, \$	45,900	58,500	29,000	12,000	8,475
Monthly rental of basic system, \$	NA	NA	Third party	NA	NA
Date of first U.S. delivery	December 1976	March 1978	1976	September 1977	February 1978
Number installed in U.S. to date	590 (all models)	NA	200	NA	NA
<b>COMMENTS</b>	GEORGE D includes CPU with 64K, 960-char. VDT, 10M-byte disk drive, and 60-lpm printer	GEORGE E includes CPU with 64K bytes, 960-char. VDT, 40M-byte disk pack drive, and 60-lpm printer	Supports up to 24 terminals and up to 35 peripherals; see Report M11-168-301 for details		Enhanced version of IBM 5100 with 2 to 3 times the internal computing power plus diskette I/O; 5110 with both diskette and tape costs \$9,875

\*\*"Std." means the device included in the price of the "basic system" as listed here.

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MANUFACTURER & MODEL	Lockheed System III Model A	Lockheed System III Model B	Prime 350	Qantel 210	Sperry Univac BC/7-600
<b>DATA FORMATS</b>					
Word length, bits	16	16	16 + 2	8	8
Decimal digits per word	2	2	2	2	2
Bytes (characters) per word	2	2	2	1	1
Operand length, words	16	16	1-4	Variable	1
Instruction length, words	1, 2	1, 2	1, 2, 3	3-10	1, 2, 3
<b>CPU</b>					
Model					
Add time, microseconds	Lockheed SUE	Lockheed SUE	Prime 350	Qantel std. CPU	Univac T3038
No. of programmable registers	12	12	1.56	—	106 (5 digits)
No. of I/O ports on basic system and maximum	16	24	8	17 in memory	7
10			10	6	3; 12
<b>INTERNAL STORAGE</b>					
Type	MOSFET	MOSFET	MOS	MOS	MOS
Capacity of basic system, bytes	32K	64K	64KB	16K	48K
Maximum capacity, bytes	256K	262K	512KB	32K	64K
Increment size, bytes	32K	32K	64K, 256K	8K	16K
Cycle time, microseconds	0.6	0.6	0.76	1.5	1.0
Access time, microseconds	0.52	0.52	0.60	1.5	0.5
<b>MASS STORAGE CAPABILITIES*</b>					
Floppy disk drive	Opt.; 1.0M bytes	Opt.; 1.0M bytes	Opt.; 2.4M bytes	Std.; to 2.6M bytes	Std.; 2M bytes
Cartridge disk drive	Std.; 40M bytes	Std.; 40M bytes	Opt.; 48M bytes	No	No
Pack disk drive	No	No	Opt.; 240M bytes	No	No
Fixed-head disk/drum	No	No	Opt.; 8 million	No	No
<b>KEYBOARD INPUT*</b>					
Alphanumeric (typewriter) keyboard	Standard	Standard	Standard	Standard	Standard
10-key numeric keyboard	Standard	Standard	Optional	Standard	Standard
Full accounting keyboard	No	No	No	No	—
<b>INPUT/OUTPUT DEVICES*</b>					
Paper tape reader	No	No	Opt.; 200 cps	No	No
Paper tape punch	No	No	Opt.; 75 cps	No	No
Punched card reader	Opt.; 285, 300 cpm	Opt.; 285, 300 cpm	Opt.; 285 cpm	No	Opt.; 300, 600 cpm
Punched card punch	No	No	No	No	Opt.; 75-160 cpm
Punched card reader/punch	No	No	Opt.; 300 cps	No	No
Serial printer	Std.; 180 cps	Opt.; 60, 180 cps	Opt.; 165 cps	Opt.; 45-120 cps	Std.; 200 cps
Line printer	Opt.; 300, 600 lpm	Std.; 300 lpm	Opt.; 1220 lpm	Opt.; 300 lpm	Opt.; 125 lpm
Reel-to-reel tape drive	Opt.; 800 bpi	Opt.; 800 bpi	Opt.; 120 KBS	No	No
Cassette tape drive	No	No	No	No	No
Cartridge tape drive	No	No	No	No	No
Magnetic ledger card device	No	No	No	No	No
CRT	Std.; 24 x 80 char.	Std.; 24 x 80 char.	Opt.; 24 x 80 char.	Std.; 1728 char.	Std.; 1920 char.
<b>COMMUNICATIONS CAPABILITIES*</b>					
Maximum no. of lines	4	4	64	1	2
Synchronous	Std.; 9600 bps	Std.; 9600 bps	Opt.; 56K bps	Opt.; to 50K bps	Std. to 9600 bps
Asynchronous	No	No	Opt.; 19.2K bps	Opt.; to 38,400 bps	No
Protocols supported	RPG II, HASP, 2780, 3780, 3741, 1004	RPG II, HASP, 2780, 3780, 3741, 1004	2780, HASP, UT200	HASP	Transparent
<b>SOFTWARE SUPPORT</b>					
COBOL	No	No	Yes	No	No
RPG	Yes	Yes	Yes	No	Yes
FORTRAN	Yes	Yes	Yes	No	No
BASIC	No	No	Yes	No	No
Assembler	Yes	Yes	Yes	Yes	No
Other programming languages	No	No	Forms	QICBASIC	ESCORT
Multiprogramming	Yes	Yes	Yes; 31	Yes; 5 partitions	Yes; 2 partitions
Language implemented in firmware	No	No	Partially	Partially	Partially
Operating system implemented in firmware	No	No	Partially	Partially	No
General accounting packages	Yes	Yes	No	Yes	Yes
Industry application areas	Insurance, medical	Insurance, medical	Graphics, statistics	Wholesale dist., medical clinics	Distribution, manufacturing
Data base management system	No	No	No	No	No
File access methods supported	—	—	Sequential, random, index sequential	Random, sequential, index sequential	Random, sequential, index sequential
Software separately priced	Some	Some	Yes	Some	No
Technical help separately priced	Yes	Yes	Yes	Yes	Partly
<b>PRICING &amp; AVAILABILITY</b>					
Purchase price of basic system, \$	29,950	49,950	30,500	11,950	21,795
Monthly rental of basic system, \$	NA	NA	NA	—	484
Date of first US delivery	1973	1975	April 1978	NA	July 1978
Number installed in U.S. to date	500 (both models)	500 (both models)	NA	NA	NA
<b>COMMENTS</b>		Lockheed Electronics Company, Inc., Data Products Division, U.S. 22, Plainfield, NJ 07061. Telephone (201) 757-1600	Each user has 2M bytes of virtual address space		Supports up to 2 workstations; entirely diskette-based

\*\*Std. means the device is included in the price of the "basic system" as listed here.

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MANUFACTURER & MODEL	Sperry Univac BC/7-700	Sperry Univac BC/7-800	Tandem T16/240-1	Tandem T16/212-1	Tandem T16/244-1
<b>DATA FORMATS</b>					
Word length, bits	8	8	16	16	16
Decimal digits per word	2	2	4.5	4.5	4.5
Bytes (characters) per word	1	1	2	2	2
Operand length, words	1	1	1/2	1/2	1/2
Instruction length, words	1, 2, 3	1, 2, 3	1	1	1
<b>CPU</b>					
Model	Univac T3038	Univac T3048	Tandem T16	Tandem T16	Tandem T16
Add time, microseconds	106 (5 digits)	106 (5 digits)	0.5 (5 digits)	0.5 (5 digits)	0.5 (5 digits)
No. of programmable registers	7	7	8	8	8
No. of I/O ports on basic system and maximum	3; 12	3; 12	64	256, 1024	256, 1024
<b>INTERNAL STORAGE</b>					
Type	MOS	MOS	MOS	Core	MOS
Capacity of basic system, bytes	48K	128K	96K	192K	192K
Maximum capacity, bytes	64K	128K	480K	448K	512K
Increment size, bytes	16K	16K	96K, 32K	64K	96K, 32K
Cycle time, microseconds	1.0	1.0	0.5	0.8	0.5
Access time, microseconds	0.5	0.5	0.5	0.5	0.5
<b>MASS STORAGE CAPABILITIES*</b>					
Floppy disk drive	Opt.; 2M bytes	Opt.; 4M bytes	No	No	No
Cartridge disk drive	Opt.; 40M bytes	Opt.; 40M bytes	Opt.; 10M bytes	Opt.; 10M bytes	Opt.; 10M bytes
Pack disk drive	No	No	Opt.; 160M bytes	Opt.; 160M bytes	Opt.; 160M bytes
Fixed-head disk/drum	No	No	No	No	No
<b>KEYBOARD INPUT*</b>					
Alphanumeric (typewriter) keyboard	Standard	Standard	Standard	Standard	Standard
10-key numeric keyboard	Standard	Standard	Optional	Optional	Optional
Full accounting keyboard	—	—	No	No	No
<b>INPUT/OUTPUT DEVICES*</b>					
Paper tape reader	No	No	No	No	No
Paper tape punch	No	No	No	No	No
Punched card reader	Opt.; 300, 600 cpm	Opt.; 300, 600 cpm	Opt.; 600 cpm	Opt.; 600 cpm	Opt.; 600 cpm
Punched card punch	Opt.; 75-160 cpm	Opt.; 75-160 cpm	No	No	No
Punched card reader/punch	No	No	No	No	No
Serial printer	Std.; 200 cps	Std.; 200 cps	Opt.; 30 cps	Opt.; 30 cps	Opt.; 30 cps
Line printer	Opt.; 125-600 lpm	Opt.; 125-600 lpm	Opt.; 120-1500 lpm	Opt.; 120-1500 lpm	Opt.; 120-1500 lpm
Reel-to-reel tape drive	Opt.; 20, 40 KBS	Opt.; 20, 40 KBS	Std.; 36 KBS	Std.; 72 KBS	Std.; 72 KBS
Cassette tape drive	No	No	No	No	No
Cartridge tape drive	No	No	No	No	No
Magnetic ledger card device	No	No	No	No	No
CRT	Std.; 1920 char.	Std.; 1920 char.	Opt. 24 x 80 char.	Opt. 24 x 80 char.	Opt. 24 x 80 char.
<b>COMMUNICATIONS CAPABILITIES*</b>					
Maximum no. of lines	2	2	64	2048	2048
Synchronous	Std.; to 9600 bps	Std.; to 9600 bps	Opt.; 5600 bps	Opt.; 5600 bps	Opt.; 5600 bps
Asynchronous	No	No	Opt.; 9600 bps	Opt.; 9600 bps	Opt.; 9600 bps
Protocols supported	Transparent	Transparent	IBM Bisync, TINET, Burroughs, ADM-2	IBM Bisync, TINET, Burroughs, ADM-2	IBM Bisync, TINET, Burroughs, ADM-2
<b>SOFTWARE SUPPORT</b>					
COBOL	No	No	Yes	Yes	Yes
RPG	Yes	Yes	No	No	No
FORTRAN	No	No	Yes	Yes	Yes
BASIC	No	No	No	No	No
Assembler	No	No	No	No	No
Other programming languages	ESCORT	ESCORT	TAL	TAL	TAL
Multiprogramming	Yes; 2 partitions	Yes; 2 partitions	256 partitions	256 partitions	256 partitions
Language implemented in firmware	Partially	Partially	Partially	Partially	Partially
Operating system implemented in firmware	No	No	Partially	Partially	Partially
General accounting packages	Yes	Yes	No	No	No
Industry application areas	Distribution manufacturing	Distribution manufacturing	Dist., banking, trans. processing	Dist., banking, trans. processing	Dist., banking, trans. processing
Data base management system	No	No	Yes	Yes	Yes
File access methods supported	Random, sequential, index sequential	Random, sequential, index sequential	Index sequential, random, sequential	Index sequential, random, sequential	Index sequential, random, sequential
Software separately priced	No	No	Partly	Partly	Partly
Technical help separately priced	Partly	Partly	No	No	No
<b>PRICING &amp; AVAILABILITY</b>					
Purchase price of basic system, \$	31,200	35,475	59,750	92,800	87,100
Monthly rental of basic system, \$	693	788	NA	NA	NA
Date of first US delivery	March 1977	July 1978	October 1976	May 1976	May 1976
Number installed in U.S. to date	NA	NA	5	10	30
<b>COMMENTS</b>	Supports up to 4 workstations; disk-based, magnetic tape and diskettes for I/O	Supports up to 6 workstations; two applications programs and print spooling can be run concurrently		Multiprocessor, fault-tolerant, "nonstop" systems for on-line, transaction-oriented applications. Tandem Computers Inc., 20605 Valley Green Drive, Cupertino, California 95014. (408) 255-4800	

\*\*"Std." means the device is included in the price of the "basic system" as listed here.